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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,924	09/30/2003	Kevin Murphy	P-6153-US	7370
27130 7590 05/16/2007 EITAN, PEARL, LATZER & COHEN ZEDEK LLP 10 ROCKEFELLER PLAZA, SUITE 1001 NEW YORK, NY 10020			EXAMINER CHRISS, ANDREW W	
			ART UNIT 2609	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/673,924

Applicant(s)

MURPHY ET AL.

Examiner

Andrew Chriss

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/1/2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-4, 8-14, 18-21, and 25** rejected under 35 U.S.C. 102(e) as being anticipated by Lazarus et al (United States Patent Application Publication US2005/0030944 A1), hereinafter Lazarus.

Regarding Claim 1, Lazarus teaches a method which includes a step of determining a property of data item to be transferred in a communication network. Specifically, the time to live (TTL) value of an IP header is examined (paragraph 0032). Further, the method taught in Lazarus includes a step of determining a property of the communication network. Specifically, Lazarus teaches a step of suppressing “don’t care” values if “sufficient information” is known about the network between the cable modem termination system (CMTS) and the multimedia adapter (MTA) (paragraph 0031). Further, Lazarus teaches a method where the payload header suppression (PHS) module is dynamically modified in relation to an analysis of the property of the communication network and the property of the data item. With regards to communication network, Lazarus teaches that the PHS rules can be modified if “sufficient information” is known about the network. With regards to the property of the data item, Lazarus teaches that a new

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speculative rule can be created in there is a “good probability that each arriving packet at the MTA will have the same TTL value” (paragraph 0032). Due to continuing classification of packets (paragraph 0016), which results in the creation of multiple speculative rules (paragraph 0017), Lazarus teaches a dynamic method for modifying PHS rules in relation to an analysis of the property of the communication network and the property of the data item.

Regarding Claim 2, Lazarus teaches a method where the PHS rules are dynamically set. Specifically, Lazarus teaches that “based on performance, new speculative PHS rules are added” (paragraph 0045).

Regarding Claim 3, Lazarus teaches a method where the PHS rules are dynamically modified if the property of the data item is greater than a threshold value. Specifically, Lazarus teaches comparison of voice payload length to the threshold allowed by the codec currently in use. Accordingly, the codec may change based on the actual packet size received, with the result being a changing or addition of a new speculative rule (paragraph 0036).

Regarding Claim 4, Lazarus teaches a method of comparing the property of the data item (voice payload length) to the threshold value allowed by the codec (paragraph 0036).

Regarding Claim 8, Lazarus teaches dynamically modifying a characteristic of the data item in relation to an analysis of a header and a content of said data item. Specifically, Lazarus teaches a CMTS using PHS rules to suppress redundant header fields in a packet, thus modifying a characteristic of the data item (paragraph 0043). The PHS rules are set based on analysis of a header field (paragraph 0032), and changes in the content of the packets (Abstract).

Regarding Claim 9, Lazarus teaches a method of determining a property of a data item and dynamically modifying the PHS rules, as described with regards to Claim 1 above. Further, Lazarus teaches that the steps are performed repeatedly during the life of a connection (Claim 3).

Regarding Claim 10, Lazarus teaches an apparatus (abstract), which has a standard DOCSIS modem subsystem and a speculative PHS rule generator (equivalent to Applicant's processor) that dynamically adjusts the PHS rules, as described with regards to Claim 1 above.

Regarding Claim 11, Lazarus teaches an apparatus (abstract) that dynamically modifies the PHS module, as described with regards to Claim 1 above.

Regarding Claim 12, Lazarus teaches an apparatus (abstract) that dynamically sets the PHS module, as described with regards to Claim 2 above.

Regarding Claim 13, Lazarus teaches a method where the PHS rules are dynamically modified if the property of the data item is greater than a threshold value, as described with regards to Claim 3 above.

Regarding Claim 14, Lazarus teaches a method of comparing the property of the data item (voice payload length) to the threshold value allowed by the codec (paragraph 0036).

Regarding Claim 18, Lazarus teaches an apparatus (abstract) that dynamically modifies a property of a data item in relation to an analysis of a header and a content of said data item, as described with regards to Claim 8 above.

Regarding Claim 19, Lazarus discloses an apparatus comprising a modem; specifically, a standard DOCSIS modem subsystem (Figure 3).

Regarding Claim 20, Lazarus discloses an apparatus comprising a cable modem (Figure 3, item 10).

Regarding Claim 21, Lazarus discloses an apparatus comprising a cable modem termination system (Figure 4, item 14).

Regarding Claim 25, Lazarus discloses a cable modem, which is a machine-readable medium with a stored set of instructions that, when executed, determine a characteristic of a data item to be transferred, selectively suppressing a portion of a packet header based on the characteristic, and repeating the determining and the selectively suppressing, as described with regards to Claims 1 and 9 above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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5. **Claims 6, 7, 16, 17, and 26** rejected under 35 U.S.C. 103(a) as being unpatentable over Lazarus as applied to claims 1, 10 and 25, and further in view of Geiger et al (United States Patent 5,987,022), hereinafter Geiger.

Regarding Claim 6, Lazarus teaches all of the limitations of Claim 1, as described above. However, Lazarus does not teach dynamically suppressing a static portion of an acknowledgment packet. In the same field of endeavor, Geiger teaches the removal/compression (equivalent to Applicant's suppression) of redundant or static information from a TCP acknowledgment (column 3, lines 42-63). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the acknowledgment compression taught in Geiger with the method taught in Lazarus in order to conserve network resources.

Regarding Claim 7, Lazarus and Geiger teach all of the limitations of Claim 6, as describe above. However, Lazarus does not teach restoring the suppressed static portion of the acknowledgment packet. In the same field of endeavor, Geiger teaches the re-construction (restoration) of the acknowledgment (column 3 lines 42-63). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the acknowledgment compression taught in Geiger with the method taught in Lazarus in order to conserve network resources.

Regarding Claim 16, Lazarus teaches all of the limitations of Claim 10 above. However, Lazarus does not teach the processor suppressing a static portion of an acknowledgment packet. In the same field of endeavor, Geiger teaches the removal/compression of redundant or static information from a TCP acknowledgment, as discussed with regards to Claim 6 above. It would have been obvious to one of ordinary skill in the art at the time of the

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invention to combine the acknowledgment compression taught in Geiger with the method taught in Lazarus in order to conserve network resources.

Regarding Claim 17, Lazarus and Geiger teach all of the limitations of Claim 16, as describe above. However, Lazarus does not teach the processor rebuilding the suppressed static portion of the acknowledgment packet. In the same field of endeavor, Geiger teaches the reconstruction (rebuilding) of the acknowledgment, as described with regards to Claim 7 above. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the acknowledgment compression taught in Geiger with the method taught in Lazarus in order to conserve network resources.

Regarding Claim 26, Lazarus teaches all of the limitations of Claim 25 above. However, Lazarus does not teach the portion of the header being a portion of an acknowledgment packet. In the same field of endeavor, Geiger teaches the removal/compression of redundant or static information from a TCP acknowledgment, as discussed with regards to Claim 6 above. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the acknowledgment compression taught in Geiger with the method taught in Lazarus in order to conserve network resources.

6. **Claims 5, 15, and 27** rejected under 35 U.S.C. 103(a) as being unpatentable over Lazarus as applied to claims 1, 10, and 25 above, and further in view of Sugawara (United States Patent 5,638,360).

Regarding Claim 5, Lazarus teaches all of the limitations of Claim 1 above. Further, Lazarus teaches the dynamic modification of the PHS module as discussed above with regards to Claim 9. However, Lazarus does not teach the comparison of a size of a data item to a data

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transfer window size. In the same field of endeavor, Sugawara teaches a window size comparator which “compares the supplied output data with a window size value” (column 3, lines 61-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the data window size comparison taught in Sugawara with the method taught in Lazarus in order to measure cell rates simultaneously with a plurality of sliding windows using a single circuit.

Regarding Claim 15, Lazarus teaches all of the limitations of Claim 10 above. Further, Lazarus teaches an apparatus that performs the dynamic modification of the PHS module. However, Lazarus does not teach the comparison of a size of a data item to a data transfer window size. In the same field of endeavor, Sugawara teaches a window size comparison, as described with regards to claim 5 above. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the data window size comparison taught in Sugawara with the method taught in Lazarus in order to measure cell rates simultaneously with a plurality of sliding windows using a single circuit.

Regarding Claim 27, Lazarus teaches all of the limitations of Claim 25 above. Further, Lazarus teaches a machine-readable medium that performs the dynamic modification of the PHS module. However, Lazarus does not teach the comparison of a size of a data item to a data transfer window size. In the same field of endeavor, Sugawara teaches a data window size comparison, as described with regards to claim 5 above. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the data window size comparison taught in Sugawara with the method taught in Lazarus in order to measure cell rates simultaneously with a plurality of sliding windows using a single circuit.

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7. **Claims 22 and 23** rejected under 35 U.S.C. 103(a) as being unpatentable over Lazarus in view of Osler et al (United States Patent 6,038,222).

Regarding Claim 22, Lazarus teaches a modem, as well as the processor that does all of that stuff, but does not teach a modem containing DRAM. In the same field of endeavor, Osler teaches modem hardware 20 with DRAM included (column 4, lines 33-41). It would have been obvious to combine the modem with DRAM taught in Osler with the modem taught in Lazarus in order to minimize the amount of hardware needed per bit of memory. DRAM only requires one transistor and one capacitor for each stored bit.

Regarding Claim 23, Lazarus and Osler teach all of the limitations of Claim 22, as described above. Further, Lazarus teaches a modem that dynamically sets a PHS module, as described with regards to Claim 2 above.

8. **Claim 24** rejected under 35 U.S.C. 103(a) as being unpatentable over Lazarus in view of Osler, as applied to Claim 22 above, and further in view of Geiger. Lazarus and Osler teach all of the limitations of Claim 22, as described above. However, the references do not teach dynamically suppressing a static portion of an acknowledgment packet. In the same field of endeavor, Geiger teaches the suppression of the static portion of an acknowledgment packet, as described with regards to claim 6 above. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the acknowledgment compression taught in Geiger with the modem taught in Lazarus, as modified above, in order to conserve network resources.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Chriss whose telephone number is 571-272-1774. The examiner can normally be reached on Monday - Friday, 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Garber can be reached on 571-270-1202. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrew Chriss
Examiner
Art Unit 2609

AC



CHARLES D. GARBER
SUPERVISORY PATENT EXAMINER